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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------------------------------------------|-------------|----------------------|----------------------|------------------|
| 10/615,500 | 07/08/2003 | Matthew J. Adiletta | 10559-075002 / P7567 | 8894 |
| 20985 | 7590 | 08/28/2006 | EXAMINER | |
| FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022 | | | ELLIS, RICHARD L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2183 | |

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/615,500 | | ADILETTA ET AL. | |
| | Examiner | | Art Unit | |
| | Richard Ellis | | 2183 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 36-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

1. Claims 36-41 remain for examination. Claim 42 is newly presented for examination.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.
3. Remaining claims 36-41 and new claim 42 are rejected under 35 USC § 103 as being unpatentable over Kogge, U.S. patent 5,475,856, in view of Agarwal et al., *APRIL: A Processor Architecture for Multiprocessing*, June 1, 1991 and Borkenhagen et al., U.S. Patent 6,212,544.

Kogge and Agarwal et al. were cited as prior art references in the last office action, paper number 20060309, mailed March 14, 2006.

Kogge and Agarwal et al. taught the invention as detailed in the prior office action, paper number 2000309, mailed March 14, 2006, herein incorporated by reference.

Kogge and Agarwal et al. did not teach logic to re-enable availability for execution of a swapped out one of multiple threads as amended by the amendment received June 15, 2006.

Borkenhagen et al. taught a system for maintaining a state of plural threads (fig. 5) including "swapped out" states (512, 514, 516) and including logic (fig. 4a, 440, 442, 444, fig. 4b, 220, 200) to re-enable (fig. 4b, "T0 Instruction Complete", "T1 Instruction Complete", 480, 482, 486, fig. 5, "Data/Inst Returned from L2", "Data/Inst Returned from MS", "Table Walk Complete") availability for execution (fig. 5, 510) of a swapped out one (512, 514, 516) of multiple threads.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined the teachings of Borkenhagen et al. into a system composed of Kogge and Agarwal et al. because of Borkenhagen et al.'s teaching that implementing the disclosed thread switching state priority system allows for optimization of the use of the processor among the threads (col. 5 lines 13-17), allows for fine tuning the system for critical tasks (col. 6 lines 11-16), for improving overall system performance (col. 18 lines 40-45), and for preemption of a lower priority thread when data becomes available for a high priority thread (col. 19 lines 30-42).

4. Applicant's arguments with respect to claims 36-41 have been considered but are deemed to be moot in view of the new grounds of rejection.
5. As to new claim 42, Borkenhagen et al. taught a context switch instruction for inclusion in programs instructions executed by the processor (col. 20 line 31).
6. Claims 36-41 are rejected under 35 USC § 103 as being unpatentable over Kogge, U.S. patent 5,475,856, in view of Agarwal et al., *APRIL: A Processor Architecture for Multiprocessing*, June 1, 1991 and Borkenhagen et al., U.S. Patent 6,212,544.
7. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

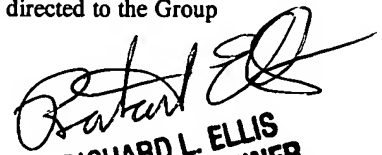
A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Richard Ellis whose telephone number is (571) 272-4165. The Examiner can normally be reached on Monday through Thursday from 7am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Eddie Chan, can be reached on (571) 272-4162. The fax phone number for the USPTO is: (703)872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Richard Ellis
August 23, 2006


RICHARD L. ELLIS
PRIMARY EXAMINER